

REMARKS

The specification has been amended because it is understood from Example 1 that the positive active material of the batteries (a), (b), (c), (d) and (e) is not lithium manganese spinel, but rather is lithium nickel oxide. Further, it is understood from the context that “(a), (b), (c), (d) and (e)” on the line 20 of page 45 is an editorial error and should correctly be “(h), (i), (j), (k) and (l)”.

The amendments of claims 1 and 10 are supported by lines 4-7 on page 29 of the specification.

New claim 16 is supported by Example 1 of the specification.

New claim 17 is supported by Example 1 (especially lines 16-19 of page 28 and lines 12-14 of page 30) and lines 25-26 of page 7 of the specification.

New claim 18 is supported by Examples 5 and 6 (especially lines 4-7 of page 45) of the specification.

Entry of the above amendments is respectfully requested.

Anticipation Rejections

On page 2 of the Office Action, in paragraph 2, claims 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Saidi et al. (5,976,489) or Sun et al. (6,071,489). Further, on page 2 of the Office Action, in paragraph 3, claims 2, 4, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sun et al. (6,071,489).

In response, Applicants have canceled claims 2, 4, 6, and 8. Accordingly, withdrawal of these rejections is respectfully requested.

Anticipation/Obviousness Rejections

On page 3 of the Office Action, in paragraph 4, claims 1, 3, 9-11, and 14 are apparently rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Saidi et al. (5,976,489) (while paragraph 4 of the Office Action also refers to Sun et al., the details of the rejection only refer to Saidi et al.). Further, on page 4 of the Office Action, in paragraph 5, claims 1, 3, 5, 7, and 9-15 are apparently rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sun et al. (6,071,489) (while paragraph 5 of the Office Action also refers to Saidi et al., the details of the rejection only refer to Sun et al.).

The Examiner's position is set forth in detail in the Office Action and will not be repeated here for purposes of brevity.

In response to these rejections, Applicant has amended claims 1, 10 and 11. Applicant submits that the present claims are neither anticipated by nor obvious over the cited art.

Specifically, Applicant submits that the amended features of claims 1 and 10 ("metallic lithium being in contact with said positive electrode" and "a positive electrode being in contact with metallic lithium", respectively) are not taught or suggested in Saidi et al. and Sun et al. Therefore, currently amended claims 1 and 10 are novel and unobvious over Saidi et al. and Sun et al.

In this regard, Applicant submits that by charging batteries having the above features, the metallic lithium being in contact with the positive electrode elutes into the electrolyte solution and deposits on the negative electrode. Therefore, metallic lithium on the negative electrode is formed without contacting with the air outside the cell case, so that the metallic lithium has no thick non-uniform oxidized surface film as described on lines 6-23 in page 32 of the specification. This effect is not obtained in the batteries of Saidi et al. and Sun et al. because the metallic lithium is in contact with the negative electrode before charging. Therefore, it is clear that the currently amended claims 1 and 10 are patentable over Saidi et al. and Sun et al.

The newly added feature of claim 11 involves “inserting a negative electrode, which substantially does not comprise metallic lithium, into said battery case”. Applying this feature to the preparation of a battery comprising metallic lithium on a negative electrode is not taught or suggested in Saidi et al. and Sun et al. Therefore, the currently amended claim 11 is novel and unobvious over Saidi et al. and Sun et al.

In this regard, Applicant submits that by the process of claim 11, the metallic lithium is deposited on the negative electrode comprising no thick non-uniform oxidized surface film, because the negative electrode does not comprise metallic lithium before charge. Therefore, the metallic lithium deposits uniformly on the negative electrode by charge. This effect is not obtained in the batteries of Saidi et al. and Sun et al. because the metallic lithium is applied into the negative electrode before charge. Therefore, it is clear that the currently amended claim 11 is patentable over Saidi et al. and Sun et al.

As for the patentability of the new claim 18, Applicant submits that new claim 18 comprises the step of “forming metallic lithium directly on a current collector of said negative electrode by charging the non-aqueous electrolyte secondary battery”. Applying this step to the preparation of a battery is not taught or suggested in Saidi et al. and Sun et al. Therefore, the new claim 18 is novel and unobvious over Saidi et al. and Sun et al.

In this regard, Applicant submits that by the process of claim 18, the metallic lithium is deposited on the negative electrode comprising no thick non-uniform oxidized surface film, because the metallic lithium is formed directly on a current collector of the negative electrode. Therefore, the metallic lithium deposits uniformly on the negative electrode by charge. This effect is not obtained in the batteries of Saidi et al. and Sun et al. because the metallic lithium is applied into the negative electrode before charge. Therefore, it is clear that new claim 18 is patentable over Saidi et al. and Sun et al.

Thus, Applicant submits that the present invention is neither anticipated by nor over Saidi et al. and Sun et al. Accordingly, withdrawal of these rejections is respectfully requested.

Conclusion

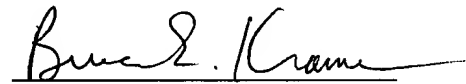
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
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Respectfully submitted,



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